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Atrial fibrillation: still an issue

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Atrial fibrillation is undoubtedly a clinically important condition. While is it steadily increasing in prevalence and incidence in ageing Western societies, management has become more effective and complex,[1] involving drugs[2,3] and interventions[5,6] (*figure 1* from Haegeli and Calkins[4]).

In this issue, important novel evidence is provided to our readers. The first paper by Michael Ezekowitz from the Sidney Kimell Medical College, Broomall, PA, USA entitled **'Rivaroxaban vs. vitamin K antagonists for cardioversion in atrial fibrillation'**[7] is an ESC *FAST TRACK* paper presented at the Hotline Session in Barcelona at the ESC's Annual Congress 2014. The X-VeRT trial randomly compared rivaroxaban (20 or 15 mg/day with renal failure) or dose-adjusted vitamin K antagonists (VKAs) in 1504 patients with atrial fibrillation (AF) undergoing elective cardioversion. The primary efficacy outcome was stroke, transient ischaemic attack, peripheral embolism, myocardial infarction, and cardiovascular death, while the safety outcome was major bleeding. The authors found that oral rivaroxaban was as effective and safe as VKAs. This is a clinically important finding, which will affect daily practice of many cardiologists.

The second paper by Stine Darkner *et al.* from the Copenhagen University Hospital **'Recurrence of arrhythmia following short-term oral AMIOdarone after CATheter ablation for atrial fibrillation: a double-blind, randomized, placebo-controlled study (AMIO-CAT trial)'**[8] is another ESC *FAST TRACK* paper from Barcelona accompanied by a thought-provoking **Editorial** by Karl-Heinz Kuck,[9] current president of the ESC Heart Rhythm Association. The clinical background of this study is that patients undergoing catheter ablation for AF often experience recurrent arrhythmias afterwards. The authors investigated whether or not short-term use of amiodarone prevents early arrhythmias following radiofrequency ablation. Contrary to the expectations of many, they found that short-term amiodarone treatment following ablation for AF did not reduce the recurrence of atrial tachyarrhythmias at 6 months. However, it more than halved atrial arrhythmia-related hospitalization and cardioversion rates during that period. Thus, the use of amiodarone may still have some clinical value.

In a third paper, Gregory Y.H. Lip from the University of Birmingham, UK reports on the **'Prognosis and treatment of atrial fibrillation patients by European cardiologists: 1-year follow-up of the EURObservational Research Programme-Atrial Fibrillation General Registry Pilot Phase (EORP-AF Pilot registry)'**,[10] another ESC *FAST TRACK* manuscript from Barcelona, accompanied by an **Editorial** by Jayasree Pillarisetti.[11] The ESC EURObservational Research Programme (EORP), currently led by Roberto Ferrari, is an important initiative of the ESC. In this case, the EORP focused on the management of AF in 3119 patients from nine member countries. In the current 1-year follow-up, the authors provide data obtained since the publication of the new ESC Guidelines on AF. Overall oral anticoagulant (OAC) use remains high, although persistence with therapy appears to be a problem. Nonetheless, continued OAC use was more common than in previous reports. Despite the high prescription of OAC, 1-year mortality and morbidity remained high in AF, particularly from heart failure and hospitalizations. This report thus suggests that ESC Guidelines, in this case on AF, do impact on clinical practice, although improvements in guideline implementation remain an issue.

In a last paper, Günter Breithardt *et al.* from the University of Münster analysed a subgroup of the Rocket-AF trial in their study on the **'Clinical characteristics and outcomes with rivaroxaban vs. warfarin in patients with non-valvular atrial fibrillation but underlying native mitral and aortic valve disease participating in the ROCKET AF trial'**.[12] This manuscript is accompanied by an **Editorial** by Stefan Hohnloser from the Wolfgang-Goethe-University of Frankfurt.[13] The authors investigated clinical characteristics and outcomes of patients with valvular disease in the ROCKET AF trial. The results suggest that many patients classified as having 'non-valvular AF' have significant valvular

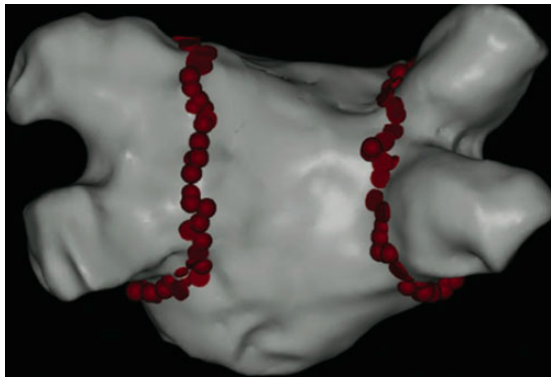

Figure 1 Three-dimensional electroanatomical map of the left atrium and the pulmonary vein ostia in a posterior projection with circumferential ablation lesions (red points) around ipsilateral pulmonary veins (from Haegeli and Calkins).[4]

disease. Their risk of stroke was similar to that of patients without this condition. Of note, the efficacy of rivaroxaban was similar in patients with and without significant valvular disease as compared with warfarin. Surprisingly, the risk of bleeding was higher with rivaroxaban in patients with valvular disease, but was the same as compared with warfarin among those without this condition. Importantly, AF patients with and without valvular disease experienced the same stroke-preventive benefit of OACs.

In a *CURRENT OPINION* article entitled **'What is 'valvular' atrial fibrillation? A reappraisal'**, complementing to the contribution of Breithardt *et al*., John Camm from St. George's University of London discusses the guidelines for the management of patients with AF.[6] He stresses the fact that patients at thrombo-embolic risk with non-valvular AF can now be managed either with a VKA or with novel oral anticoagulants (NOACs), while patients with valvular AF have been restricted to VKAs. Valvular AF has included any valvular disorder, including valve replacement and repair. Such patients have not been included in NOAC trials, but there is also no stringent argument to exclude them. Conversely, in patients with mechanical valves, dabigatran etexilate against VKA treatment was stopped, because of increased rates of thrombo-embolism and bleeding. Patients with AF and bioprostheses, native aortic valve disease, mitral regurgitation, and mitral valve repair were variously included, and analyses do not suggest that they respond differently from others. Camm *et al*. thus propose that the equivocal term 'valvular AF' be replaced with the specific terminology of 'mechanical and rheumatic mitral valvular AF'.

The issue also contains a clinical review by Peter Jüni *et al*. from the University of Bern, Switzerland on '**Systematic reviews and meta-analyses: principles and pitfalls**', an issue all cardiologists, particularly those involved in clinical research, should be aware of.[14] Indeed, systematic reviews and meta-analyses allow for a more transparent and objective appraisal of the evidence. However, their misuse may lead to misleading results. In their review, the authors discuss the main steps that should be taken when conducting systematic reviews and meta-analyses, namely the preparation of a review protocol, identification of eligible trials and data extraction, pooling of treatment effects across trials, investigation of potential reasons for differences in treatment effects across trials, and complete reporting of the review conduct and findings. They conclude that, if conducted and reported properly, systematic reviews and meta-analyses will increase our understanding of the strengths and weaknesses of available evidence, which may eventually facilitate clinical decision-making.

We sincerely hope that this issue of the *European Heart Journal* will also be of interest to our esteemed readers.

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